



SEQUENCE LISTING

<110> SHEN, BEN
LIU, WEN
CHRISTENSON, STEVEN D.
STANDAGE, SCOTT

<120> GENE CLUSTER FOR PRODUCTION OF THE ENEDIYNE ANTITUMOR ANTIBIOTIC
C-1027

<130> 407T-896010US

<140> US 09/478,188

<141> 2000-01-06

<150> US 60/115,434

<151> 1999-01-05

<160> 2

<170> PatentIn version 3.2

<210> 1

<211> 42000

<212> DNA

<213> Artificial

<220>

<223> cDNA

E' <220>

<221> CDS

<222> (11)..(658)

RECEIVED

FEB 28 2003

TECH CENTER 1600/2900

<400> 1

gtcgcactcta gag gat ccc ggg tgc gga gta ggg gtt acg gac gaa gga 49
Glu Asp Pro Gly Cys Gly Val Gly Val Thr Asp Glu Gly
1 5 10

ggg gtg ccc ggc gac gcc tgc ggc gaa ggg cgg ttc ctt gag ttc gag 97
Gly Val Pro Gly Asp Ala Cys Gly Glu Gly Arg Phe Leu Glu Phe Glu
15 20 25

gcc ggt ggc gag gac gac gtg gtc cgc gtc gag gat ctg cgt gtc ggg 145
Ala Gly Gly Glu Asp Asp Val Val Arg Val Glu Asp Leu Arg Val Gly
30 35 40 45

gag cgg ccc agg gcg cag ccc ctc ggt cag gta cgg ggt gag gcc cct 193
Glu Arg Pro Arg Ala Gln Pro Leu Gly Gln Val Arg Gly Glu Ala Pro
50 55 60

gac ggt cac ctc gaa gca gcg gtc gtg gga ccg ggc gtc gag cgc ctc 241
Asp Gly His Leu Glu Ala Ala Val Val Gly Pro Gly Val Glu Arg Leu
65 70 75

ccc gtc cgc ttc cac aag gac gac gcc ggg aca gga ctc ccg tgc ggc 289

| | | | | | | | | | | | | | | | | | |
|-------------|------------|------------|------------|------------|-------------|-----|-----|-----|-----|-----|------------|------------|-----|-----|-----|------|--|
| Pro | Val | Arg | Phe | His | Lys | Asp | Asp | Ala | Gly | Thr | Gly | Leu | Pro | Cys | Gly | | |
| | 80 | | | | | | 85 | | | | | 90 | | | | | |
| ctc | gac | cag | tcg | ggc | gtc | gag | gta | gtc | ctg | gaa | gat | gcg | gcg | ggg | ggc | 337 | |
| Leu | Asp | Gln | Ser | Gly | Val | Glu | Val | Val | Leu | Glu | Asp | Ala | Ala | Gly | Gly | | |
| | 95 | | | | | 100 | | | | 105 | | | | | | | |
| ggg | gcc | ctg | ttc | ggt | gaa | ctt | cca | cga | agc | cca | gcg | ccg | ggg | cca | gtc | 385 | |
| Gly | Ala | Leu | Phe | Gly | Glu | Leu | Pro | Arg | Ser | Pro | Ala | Pro | Gly | Pro | Val | | |
| 110 | | | | 115 | | | | 120 | | | | | | 125 | | | |
| gcg | ccg | gtc | ggc | ctc | ctg | gtt | ggc | cca | gtt | gat | gaa | gtc | gag | cac | gtc | 433 | |
| Ala | Pro | Val | Gly | Leu | Leu | Val | Gly | Pro | Val | Asp | Glu | Val | Glu | His | Val | | |
| | | | 130 | | | | 135 | | | | | | | 140 | | | |
| ctc | gcg | gaa | cac | cga | cat | cct | gcc | ggc | ctg | gat | att | gaa | gac | gtg | gtc | 481 | |
| Leu | Ala | Glu | His | Arg | His | Pro | Ala | Gly | Leu | Asp | Ile | Glu | Asp | Val | Val | | |
| | | | 145 | | | | 150 | | | | | | 155 | | | | |
| cca | ggg | gtt | gcc | gtc | acg | gtg | ata | ggc | gac | gcc | ggc | cga | gcg | gta | ggc | 529 | |
| Pro | Gly | Val | Ala | Val | Thr | Val | Ile | Gly | Asp | Ala | Gly | Arg | Ala | Val | Gly | | |
| | 160 | | | | | | 165 | | | | | 170 | | | | | |
| ggc | gcg | ccg | ctc | cag | gag | gac | gac | ttc | cag | cgg | tct | tct | cgc | gaa | atg | 577 | |
| Gly | Ala | Pro | Leu | Gln | Glu | Asp | Phe | Gln | Arg | Ser | Ser | Arg | Glu | Met | | | |
| | 175 | | | | | 180 | | | | 185 | | | | | | | |
| aag | cag | gcg | tat | cgc | ggt | cgc | cgt | gcc | tgc | cag | gcc | cgc | ccc | tac | gac | 625 | |
| Lys | Gln | Ala | Tyr | Arg | Gly | Arg | Arg | Ala | Cys | Gln | Ala | Arg | Pro | Tyr | Asp | | |
| 190 | | | | | 195 | | | | 200 | | | | | 205 | | | |
| cag | cac | cct | ggg | gcg | cgc | acc | cgt | cat | gcc | cat | gaagcctccc | ccgctgactc | | | | 678 | |
| Gln | His | Pro | Gly | Ala | Arg | Thr | Arg | His | Ala | His | | | | | | | |
| | | | 210 | | | | 215 | | | | | | | | | | |
| agggcgggcg | gtcgcgcgct | cccgtcggtg | tcctcgctga | ctggaagtgc | cctgacctgg | | | | | | | | | | | 738 | |
| cgtaactcc | actgatccgt | aaggggatcg | cgggagtggg | tacgggtcag | gtcgtgcacg | | | | | | | | | | | 798 | |
| atcgtggcac | cagacagatc | accacgtcga | taggactcgc | tgagccgcgc | ccggggctcg | | | | | | | | | | | 858 | |
| acggggcggg | gcaccggcag | gggcggccgc | gtgatcagcc | ggagcctgtc | cgggggcggtg | | | | | | | | | | | 918 | |
| cgtgcggggc | gtcagctgtc | gatgtcggga | acgccaggga | cgtcgatctc | ggtgcggggc | | | | | | | | | | | 978 | |
| tagtggttga | agtagttggt | gtagaggttc | acggccacgt | ggacgaagac | ctcggcgagc | | | | | | | | | | | 1038 | |
| tcgggtgtccg | tccatccctg | tgccacggcc | gcgttccacg | aggcgtcaga | cgctcgccc | | | | | | | | | | | 1098 | |
| acttcgccgg | cgatctccct | ggccacctgg | accagtgcct | cgagcttcac | gtcgtcgccg | | | | | | | | | | | 1158 | |
| ggcgctcccc | ggcgaatcgc | cacggtctcc | tccagcgtga | aaccgcgcac | cttcgcccgc | | | | | | | | | | | 1218 | |
| accgtgtgcg | ccgcctggca | gtacgcgcac | gcgtcgaccg | cgccacggc | gagggcgatc | | | | | | | | | | | 1278 | |
| gcctcgcggtg | tgcgggcgtc | gaacgttcca | tgttcggcga | cggctccggt | gatcgcgggc | | | | | | | | | | | 1338 | |

E
Cont

| | | | | | | |
|------------|-------------|-------------|------------|-------------|-------------|------|
| taggtttcca | ggaccacggg | ggaatgggcc | attccccgt | ggatgttgag | cactcgcccc | 1398 |
| aaccgcttct | ccagtcggcg | caggatgtct | ccgcgggctg | cgggtgcggt | gtcgatgggtg | 1458 |
| tggacgggaa | tccgcggcat | gggaatgcct | ctcctcgtag | tgatgggagt | tcctcgcccc | 1518 |
| tccagtctgc | ccaagcacct | cccccggtga | gctgtccccg | ccgcctccg | gccccctcta | 1578 |
| ggcaggtcgc | ccggtggtgc | ggccccagga | cgtcacctcg | ccgcaccacc | gggagccccg | 1638 |
| aggggcgagg | tcagaggccg | agcacctcct | cggccagggc | ggtgccccga | acacgggcct | 1698 |
| cgatcttggc | gaaggccagg | tcgcgtgtgg | tggagggtgc | gtcggcggaac | ggggagaagc | 1758 |
| cgcagtcgtc | gcaggttccc | agttgctcga | cggggatgta | gcgggcggcg | agcaggatgc | 1818 |
| ggtcgcgtac | ctgctcgggg | gtctcgacca | ctgggtcgat | cgggtcggtc | accccagga | 1878 |
| agacgcgggc | ggcagggggc | aggtggtcac | ggacgatgct | caggaccgc | tcgggggtccg | 1938 |
| cttcgccggc | cagttcgaga | tagaagttgc | ccgccttgag | ctggaagagc | ttgggcagca | 1998 |
| gttcggcgta | gtcgatgtcg | aggctgtgcg | tggagtcctg | gtcgccgccg | gggcagggtgt | 2058 |
| gtacgccgat | gcgggcgggt | tcctcggcgc | tgaagcgccc | caggacttcg | ttgttgaggg | 2118 |
| cgatgaagtc | gtcaggagacg | ccgccgctgg | ggtcgagctt | gagggacagc | cgccccctcg | 2178 |
| tgaagtcgag | ctggaccacg | tgtgcccccg | cgccaggca | gcctcggatg | tcggcttcgg | 2238 |
| cctcgtcggc | gaggtcgcgc | aggaactgct | cgcgggggta | gccctcgatg | ggagtggcgg | 2298 |
| ggtagaggag | gctgagggcg | gaggggtgcga | tgaccgcctg | cttcaggggg | cggctccgtga | 2358 |
| gctgccgtgc | ggcgcgcaga | taggtttcgg | cccgcacctg | gtagcggaag | ggccccctggg | 2418 |
| tgatgctggg | gagctgccgg | gtgtgcccgt | ctgcgaaggg | gatgacagcg | ccgtcggggc | 2478 |
| agaggggtgc | gaggccgggtc | acggggtagg | tggcgaagct | cggcttgga | tgttcacctg | 2538 |
| ccacgaggac | ggggctgccg | actcgttcca | gtcgtgtcag | ggtgtccgcg | acggcctggt | 2598 |
| cctgctgttt | ggccagggtcc | gtggcggtcca | gggttccctg | ggcatgcgcg | gcaagggcgt | 2658 |
| gcaggagtgt | cgcgagcg | ggaaggctgc | cgatcggtc | agtggcgatg | gtcatggccg | 2718 |
| aagagtaggg | aagaggctgg | gtttcgaacc | accgcaaagc | tttgattgcc | gctttttcag | 2778 |
| gggaagtga | tgcaagtcg | ccgagcggcg | gaacgtgctg | atgtatgggg | ggcgggagga | 2838 |
| gcctgcgggg | ttctaggagc | cggtcgcggc | cacggtggag | gaggtgcccc | gctgggagcg | 2898 |
| gggggtcttt | tcgccgacgc | ggttgggctc | gatggtgcgg | gggtcgacgg | cctctccggg | 2958 |
| ggcaccttgc | cggtagacgc | cttcggggtc | ggagtccccg | tcatggggga | gcaggaagaa | 3018 |
| gaccggcg | cggtacagac | cgctgtccgg | gtccgcttcg | gcgtcgcccc | cgagttcgat | 3078 |

E1
cont

| | |
|--|------|
| gtagccgatac atgcggccgt cgcgggcgta gcgcggcttg ttcttgcgcc ggggggtctt | 3138 |
| gtccagggcc tggcggacgt agtcgagtc ctcgggatct tcgagccaca cgaccttcgc | 3198 |
| ctcgtgaacg agatcgctgt cggtcagtag cgagctcatg gcggcgacct ctcttcgtc | 3258 |
| ggcgtgcacc ggggtgggaa gcgggtgcctg cgtgatgtgt gtctgtctgc ggcggtgggc | 3318 |
| cgcagtgggtg cggaccgccc gtgggtgccg ttctcggcca aagcacgggc aggtacgtcc | 3378 |
| tggggcactc acatcgtaga tgggggtccgc ttccgcaggg cagtgcctcc ggtcggagga | 3438 |
| cgttcattcg tcggctgcca gagcgagggt ggggtagaac ttccggccgt tggatttgat | 3498 |
| catgtcggca ggtgaggcga ggcccacttc ctggcggacc cgggtggcga aggcacgggc | 3558 |
| ggtcccgggg cggatgcctt cactgtgtgc gcaccagggt ctgtaggacg ttagagaaag | 3618 |
| gccctgttcg acgcgtagct cgctgttctc ggggtcgtgg aggcagcact cggcgaggaa | 3678 |
| gcggccgatg tggtcctcgg tgttcgcgta tgcgtgggtg gcgatgcgga cccggtcggg | 3738 |
| gccggcgagt gtgtcgcggg tggcgaggta gcggcgggcc ccttcggtga gccagtgcag | 3798 |
| gatcccgggg ccctcgtcct ggacgagttc gacagccagg ttgtcgatct tgcgttcgtc | 3858 |
| | |
| ggggacgatac cgttcgaagg gcaggaggcg gatgcggcgc cagaaggcga agccgccggt | 3918 |
| ggagacctcg gggcgggtgt tgcgcagcag ccacagcttg tgcgtgggtg tgaaggagaa | 3978 |
| atagtcctgc cgcattgcggc gggccttgat cttgtcaccg ccggtcagca ggcggacgcg | 4038 |
| cgctcgtcg aagcggctgt tgggcttgag ctgcgtgcac acgatgaggc ggcggccgtg | 4098 |
| gagttcgtg agctcgggtg agtggttcgga gtatgcgcca cgggtccatga ggaaacccgg | 4158 |
| | |
| cggggctgcg tcggcgtagt cggcgagaat ctggatcatac acgtcgagga gaacggattt | 4218 |
| gccgttcttt ccctggccgt ggagaaaggg cagcacctgc gcccgcagc caccggtgat | 4278 |
| ggagtagccg agaaggaggt ggaggaagtc gatcatctcc cggccttcgg cgtcactgcc | 4338 |
| gaaggtgtct tcgaggaaac ggtgccagcg ggggggtggg atgtcctggg gggaggcgct | 4398 |
| ggtggcgcgg gaggggaagt cccgggtggg gtcgggcttg cgcatacggc cgttcggag | 4458 |
| gtcgaccact ccgtcagggg tgcacagggc gtaggggtct ccgtcgaggg tgtcgggatac | 4518 |
| gagggagagg tcgggagagg cctttgcctg ggtgaggagc gccttcatac cggtcgtcga | 4578 |
| caggggtcgg cgtttgtggt ggtgcagttc ccggtcgggt aacagcccgc ggggatcgct | 4638 |
| gccgggcatc tcctccgcca tctctccggc agcccacagg gcagctttct cgcctccggc | 4698 |
| ccgcttcac cggtagccgt ccaggagta ccagcccagg ccctccacgt gccggaactg | 4758 |

E
Cont

| | |
|---|------|
| gtcacggtag agacggacga agagcttggc gttgccgcgg tcggtcaggc tggcgggaat | 4818 |
| ctcgcccgcc tcccaggcgg tcgcggcgac gggggcctcg ggagcggcct ggacagggag | 4878 |
| gagcggcgct ggggcccggg tggtttcgag ggccagcatc tgctgagcgg cggcagttgc | 4938 |
| gtcaaagcga gggccctcgg cgctgctgct catggacgtc cttcgagatg gagcggtcgg | 4998 |
| gcggtccccg ctgcgggaac ggcatgaatg atcttcccg tgcggacaga gtgccagggg | 5058 |
| cagcgcattgt gcggggggac aacggcccgt ttcggacgag ggccggccga cggggggaag | 5118 |
| caggggcccgg caaccgggtg gcggggcgcc gtgagcgagg gcacgagcgg cccggtacgg | 5178 |
| ggggaagggc tcgtctctcc gtggggcgcc acgttgtggt cctcgtccgt cagcttgctg | 5238 |
| ctggcttcag cctcctgacc cccaataagg cgaaagctgc tggtaagca tctttcgtga | 5298 |
| cactcggcga gggactgaag ggactgtctt tcggaatgag ttaggggggt tgcgggtgg | 5358 |
| ggaccgcgcc tcgactcccc ggcggacggg atctgttcgg tcggtcctct gggtcctctc | 5418 |
| ccggatcgcg gcagggaccc aagggggcgg tcgggcgggc ggtcgggtgag gggccccggt | 5478 |
| ggagggactg aggggtctgta tggagcgata agaggggtctg aaggggcgga gagagtctcg | 5538 |
| gtccctgcgt tgagtcctcg gtcattaccg caggtcagag gggttttgag gggtgaaaaa | 5598 |
| gggactgaag ggactcaact tccccattat gagctgagta gaagaaagca gtatgacgat | 5658 |
| atcggcgccct acatacgcg gcgtacatag tgagcttata atgcggaagt tgagtcctct | 5718 |
| cagtcctctt tcgtgggggtc gtatccctc tgactgcgtt gaccgtcgcc gctccgcgca | 5778 |
| gggaccgaag agggaccaag tccctgcgcg gggcgggcga cggtaatcgt gcagtcccc | 5838 |
| ctccccggt tcccacagcg agtcgtcgct cccctgtgag gccggagagg gtcctagaac | 5898 |
| ccctcagggg ccgttctgtg gccctctggg cctcctcctg gccatttacc ccatgggggc | 5958 |
| gcttgggggc gtcaggaggg cttgtgaggg ctctgccggg aagtggcgga ttgcgcattg | 6018 |
| caggagatgc cccgacagcg gccgggaatc gacgatgtcc cccgaccct atccagcgtc | 6078 |
| cgctgaccc caggaggcag accttgagg ctccagaagc gaagaacggc cgggtccccg | 6138 |
| agcagccgca ggaagagcgg atcgtcctgg acgtatgggt ggcgaaactac ccgttcccc | 6198 |
| cctatgacgg gcgtgacttc ctcgctccgc tgcgcgagcg ggcggcgagg ttcgagcgcg | 6258 |
| cccacccccg ataccgggtc gacatcaacg gccacgactt ctggaccatc cccgagaagg | 6318 |
| tggcgcgcg caccgcggag ggcaggcctc cgcacatagc gggctactac gccaccgaca | 6378 |
| gccagttggc gcgggacgcg cgcaggcccg acgggaagcc ggtcttcacc tcggtggagg | 6438 |

E!
Cont

| | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------|
| ccgcgttggc | cgcccgacg | gagatactgg | gacacccggt | ggtggtggag | gacctcgacc | 6498 |
| ccgtggtgcg | cgactcctac | tcgttcgggg | gcgagttggt | gtcgtctgcc | ctcacgggtca | 6558 |
| ccaccatgct | ctgctacgcc | aactcctccc | tctcgcgcg | cgccggtggt | ccggagttgc | 6618 |
| cccgtacctg | ggatgaggtc | gaagcagcct | gccaggcggt | ggccagcgtc | gacggggggc | 6678 |
| ccggtcacgg | aatcacctgg | gccaacgacg | gctgggtttt | ccagcaggcc | gtcgcccttc | 6738 |
| agaacggggg | gctgaccgat | caggacaacg | gccgctccgg | ctccgccacg | acggtggacg | 6798 |
| tcacatcgga | cgagatgctg | gactgggtcc | gctggtggac | gcacctccat | gagcgcggcc | 6858 |
| attacctcta | cacgggcggg | ccctcggact | ggggcggggc | gttcgaggct | ttcgtccagc | 6918 |
| agaaggctcg | attcaccttc | gactcgtcca | aggccgcccc | ggaactcatc | caggccgggtg | 6978 |
| cacaggccgg | tttcgaggtc | gcggtgttcc | cgttgccacg | gaacgcgaag | gccccggtag | 7038 |
| cgggccagcc | cgtctcggga | gactccctgt | ggctggccgc | gggactcgac | gagaccacgc | 7098 |
| aggacgggct | gctcgtcttc | accagttacc | tgatcagccc | ggccaacgcc | gcggactggc | 7158 |
| accgcaccaa | cggtttcgta | ccggtgaccg | gcgcggccgg | ggaactgctg | gaagcgacag | 7218 |
| gctggttcga | cgcccgcccg | cagcaacggg | tggccgggga | gcagttgaag | gcgtccgacc | 7278 |
| ggtcacccgg | ggcgtcggc | gcgctgctcg | gcgacttcgc | ggcgtcaac | gaggtcatca | 7338 |
| ccgcagcgat | ggacgatgtc | ctgcgcagtg | gagcggaccc | cgcaaggcc | ttcgccgaag | 7398 |
| ccggcggtgg | cgccagcaa | ctgctcgatg | cctacaacgc | ccggaaccgc | tccggatccg | 7458 |
| ggacccccct | cgccgtctga | gatccggtac | cggggcacag | gggcgcgcgc | gcccgttttc | 7518 |
| ccggcggggc | aetggccggg | ggacatgctc | tcccgcctcc | ggcaggacgt | agggtcaacc | 7578 |
| cgcttcgcgc | ttcaggtggc | ggcgcagata | ctcacccggt | agggaggaat | ccgcggcgag | 7638 |
| caggctcctc | ggtgtgccgg | tgaagacgat | ctcgccgccc | tccgctcccc | cgtcgggacc | 7698 |
| caggctgatg | atccagtcgg | cctgctgcac | cacatcgagg | ttgtgctcga | tgaccacgac | 7758 |
| ggtgttcccc | gcctcgacga | gcccgtccag | gagcttcagc | aggggtgtcaa | cgcccgacat | 7818 |
| gtgcagcccc | gtggtgggct | cgtccaggac | atagaccgtg | cccgtgcggg | gcagctggtc | 7878 |
| ggcaagtttg | atccgctgca | gttcaccgcc | ggagaggctg | gaaagcggct | ggccaggct | 7938 |
| gaggtaccca | agaccgacgt | cgacgagagc | gcgcagtttc | ggcagcaggg | ccttctcggt | 7998 |
| gaagaactcg | acggcctcgt | cggcgggcag | ctccaggacg | tccgcgatcg | acttcccgcg | 8058 |
| aagctggtgc | tccaggacct | cgggcttgaa | gcggcgcccc | tcacagacac | cgcagtgcgt | 8118 |

E!
Cont

| | | | | | | |
|-------------|------------|------------|-------------|------------|-------------|------|
| ggtcaccgga | tccatgaagg | ccagctcggt | gatgatgacc | ccgcggccct | ggcactcctc | 8178 |
| gcacgacccc | ttggagttga | agctgaacag | cgaggcggtc | gcgcgggtct | ccttcgcgaa | 8238 |
| cagcttgccg | agcgggtcca | tcaggccgag | gtaggagacc | ggtgtggagc | gcgacgaggc | 8298 |
| ggcgatcgcg | gactggtcga | caaagaccgc | gtcgggggtgc | gcctccatga | atgccccgga | 8358 |
| gatcagggtg | ctcttgccgg | aaccgcgcc | cccggtcacc | gcggtcagca | caccgggtggg | 8418 |
| cacggccacg | gagacctgct | tcagggttgt | gagatccgcg | ttctccacgg | tcagctcccc | 8478 |
| cgtgggcggg | cggacctcct | ccttcacgcg | ggccccccgc | cgcagagcct | ccccgggtccg | 8538 |
| ggtcttcgcc | ttccgcagct | tcgcgaagga | cccctcgaac | acgatctcgc | ccccgtgcac | 8598 |
| tccgcgcccg | ggaccgacat | cgacgatgtg | gtcggcgatc | tcgatcacat | cgggggtcgtg | 8658 |
| ctcgacgacc | agcacggtgt | tccccttgtc | gcgcagcgcg | cgcagcaggt | cgttgagccg | 8718 |
| ccccacgtcg | cgcgggtgca | ggccgatgct | gggctcgtcg | aagatgtacg | tgagccccggc | 8778 |
| cagaccactg | ccgaggtggc | gcaccatctt | cagccgctgc | ccctcgcccc | ccgagaggtc | 8838 |
| ggccgtgggc | ctgtccaggg | tcaggtagcc | gagcccgatg | gacacgatcc | gctccagggc | 8898 |
| cgtgcgcgcg | gctttcgcga | gaggggcagc | ggccgggtcc | gtgacgccgg | cgagcacctc | 8958 |
| cgtgaggtcg | cggacctcca | tgctcgagta | gtcggcgatg | ttcttgccgt | cgatccggac | 9018 |
| gtcgagcgcg | gcggcggtga | gccgcgcgcc | ccggcaggag | ggacagactc | cgtcgggtgac | 9078 |
| gaaacgttcg | atgacctcgc | gcttgccgtc | gtcagcgcg | ctgaggtcgc | gcttgaggtt | 9138 |
| gagccgctcg | aaccggtcgg | ccaaccctc | gtagtctcgc | tggaactcgg | tgctcttggt | 9198 |
| cttcagcgtc | accttccccg | cggtgccgcg | cagcagcggtg | tccagctcct | cggcgctgta | 9258 |
| ctcggcgatc | ggcttgggcg | gatccagacg | gccggacttc | gccagatct | gccagtccgg | 9318 |
| gtacccacc | ttgtactcgg | ggaaaaggac | cgccccgtcg | tccagggact | tcgagcggtc | 9378 |
| cagcatcttg | tccaggtcga | gggcgatgct | ctggccgaga | ccgtcgcagt | ccgggcacat | 9438 |
| gccctggggg | tcgttgaacg | agaacgcgga | gacgccgagc | gaggacggcc | cgtcgtcctt | 9498 |
| cgtcgtgccg | aaccgtgcga | acagggcccc | gatcatcggc | tgtacgtccg | tcattggtccc | 9558 |
| caccgtggac | cgggcgttgc | cccccaagg | cttctgggtc | acgatcaccg | gggtggtgag | 9618 |
| gttctcgatc | gcctcggcct | gaggacgttc | gtacttcgga | agctgggttc | ggatgtacca | 9678 |
| gctgaagggtg | gagttcagct | gtcgtcgggc | ctccacggcc | accgtgtcga | agacgatcga | 9738 |
| cgacttgccc | gaacccgaga | cccccgtaa | gaccgtgatc | tggttgccgg | gaatcgtcag | 9798 |
| ggagacatct | ttgaggttgt | ggatccgcgc | gccgcgatg | cggatgccgt | ctccccggcc | 9858 |

E1
cont

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-------|
| ggatgttttt | cccgcgccgg | cggtgggggc | ggtgacgctc | acagagtttt | cctcctgggt | 9918 |
| tccgtacatg | atttacctg | tcagccgggc | aaaccggcgg | aacggtaacc | acctagcttg | 9978 |
| tactcaggag | gtgtccgggg | tcttctcctc | ccgtgctgac | ttggggggccg | gcccgcggga | 10038 |
| cagggccggc | tccgtgttcc | accccgccag | ccgatcccc | cgtccgtct | cgctcctcctc | 10098 |
| gagaacgatc | cggtgctcg | cccagcgcag | gatcggcggc | gccgtcaccg | aggtgatgag | 10158 |
| ggcgaccagc | acgatgatcg | tgaaggtcac | ggtgtccagt | acgccgatac | gcaggccgac | 10218 |
| cagggcgatc | accacctga | tcattccacg | cgagttcctc | cccgtccga | gcgccagccc | 10278 |
| ctcgtagcgg | ctcatccgc | cactacgggc | ggcgacgtac | gcaccggcga | acttgccgaa | 10338 |
| agtggccacc | aacagcacc | cgaggcccg | gagcagcacc | gacggctccg | cgagtgcgg | 10398 |
| caggtccatg | cgaagcccca | cactgcccag | gaacaccgg | gcgaacacgg | ccatgaccag | 10458 |
| cgtgcgcagc | ggggcgagcc | gtaccggggc | gatgtgcctc | agcagggctg | caccggccac | 10518 |
| gaacgccccg | aacaacgcct | ccatcccgcc | cgccgcgggc | agcgccccgt | acaggacgac | 10578 |
| cacggccacg | ccgacggtga | cgcccgatac | ggggaccgg | ctgtcaccg | tacgggacag | 10638 |
| ccgcctgccg | atcgggccgc | ccaccgcaca | cgccgcggcg | acgaagacgg | tcgtccaggc | 10698 |
| catcgtgggc | aggaccacgg | gcccccgcc | cgccccactc | gccagcgccg | tcaccagagc | 10758 |
| gagcagcagc | cagcccaccg | cgctcgtcga | caccgctgcc | gcgatgagca | gctggccgac | 10818 |
| gttgcggtgc | gtcagattca | ggtcggcgag | cgtcttggcg | atcaccggga | gggccgtgac | 10878 |
| acacatcgcg | accccgagga | acagcgcgaa | gacgccccgc | tctccggagt | ccgcgagcag | 10938 |
| <hr/> | | | | | | |
| cgaggcgggc | accaggtagc | cggtggcgat | gcccagcccc | agaggaatca | gaagaccgcg | 10998 |
| caggctgacc | cgggcgggca | gacccccgcg | cttgccgagg | atccgggggt | cgaactgggc | 11058 |
| acctgcgatg | gccaccagca | gaaggacgcc | gaactggcag | aacgcgtcga | gcaggtgcgc | 11118 |
| ctgcgagatg | tcctcgggaa | acagcctgcc | ggaaagtccc | ggcgagatct | gccccagcag | 11178 |
| ggtcggcccc | agcagtaccc | ccgcggtcag | ctccccacc | agcggcgcca | gaccgatccg | 11238 |
| ggtccccagc | cgtcccagac | cgtaggcaca | ggcgagcagg | aggccgacct | ggagcaggaa | 11298 |
| gaccgtcagc | ggctccccgc | ccagcggcga | cgtggctgcg | agcacagcca | cgtcaggacc | 11358 |
| gcgcaccggg | aaccagccc | agcccgctcg | tcgacgcggc | cagaccccc | tgctcaccg | 11418 |
| gtcgtcggc | ccccgcctca | tccccagaa | gagcccgctg | ctgcagtgcg | gcgctctgct | 11478 |
| ccatgaggcg | gcccaccacc | tttcccggca | cggcgcctg | cgcccgctcg | gcgtcgcccc | 11538 |

E1
Cont

| | | | | | | |
|-------------|-------------|------------|------------|-------------|-------------|-------|
| cagcgggtgtg | cgtcatgccg | gccatctcgt | cggacgcctc | ggagaaccgc | tgcttgcccc | 11598 |
| gggccgtgtc | ggcgaactcg | tcggaggaga | ccccgccgat | cagttcgacg | aaggactgca | 11658 |
| ggtcggagtc | cgcggtgttg | gagatcttcc | gggcctgcc | gaaataggag | tcctccgaat | 11718 |
| ggtgcatgtc | gtagaagccg | accaggaact | cgtagaagcg | gccgtactcc | agccggtagc | 11778 |
| gggcctcgaa | ctcctcgaa | gcgctgggtc | cgtcgaccga | cccgtccagg | caggagttga | 11838 |
| gcgagcgcg | tgccagcagt | ccgctgtagg | tggcgaggtg | caccccgag | gagaacaccg | 11898 |
| ggtcgacgaa | gcacgcggca | tccccgacca | gggccatgcc | cggcgcccag | aacttcgtgt | 11958 |
| tgctgtacga | ccagtccttg | cggaccggga | gtcgcgcgta | ggggccctcg | gtcaccgggg | 12018 |
| tggcctcgga | gagcttctcc | gcgatcagcg | ggcaggccgc | gatgaacgac | tccatcgctt | 12078 |
| tctcggggtc | gccctgcacc | aggctcgccg | agtcccggtt | caccactgcg | ccgacactcg | 12138 |
| tcagctcggg | agacaggggt | atgtaccaga | accaccctg | ctcgaagggt | cagggtgaaga | 12198 |
| tgttcccggg | gttcggcttc | ggaagccgct | tggcgccggt | gaagtagccg | aacagggcca | 12258 |
| ggttgccgaa | gaagggcgag | tactcgcgct | tggcgcccga | cttcttgtag | agcccaccgg | 12318 |
| tgttgccgga | ggcgtccacg | acgaaacggg | agcccacctc | gtgctcgcg | ccctcggagt | 12378 |
| cccggtagcg | cacgccccgc | acccggccgt | cctcggcctt | gagcacgtcg | aggacatcg | 12438 |
| tgttctcccg | cacctcgaca | ccgtgcctgc | gagcgttgtc | gagcaggatc | tggtcgaact | 12498 |
| tcattcgctc | gacctggtac | gcgtaccccg | tcgcccccg | catccggcgc | gagacggcga | 12558 |
| agtcgaacgt | ccacgggttcg | gggttggcac | cccacttgaa | cgcccccg | tgcttgatcg | 12618 |
| <hr/> | | | | | | |
| tgaaggctgc | cttcttcagc | tcgtcggaga | caccgaggag | gtgtgcgatg | ccgtggacgg | 12678 |
| tggaggggag | gagcgactca | ccgatctggt | agcgcgggaa | ggtctccttc | tccagctgga | 12738 |
| gtacgcgatg | gccccgcttg | cggaccagcg | tggagacggg | cgagcccggc | ggacctccgc | 12798 |
| cgaccacgat | gacgtcgtag | tgcgtgaca | cgtccacgga | ctctccttct | cgcacatcgg | 12858 |
| gcgtctcata | ttcccaggaa | tcctctggcc | cgcccagggt | ctgcgcgcat | ttcggtattg | 12918 |
| cgaagtcgtg | ggcattctgc | gagaagcatg | aaccgcgtgg | cccgggtctac | agtggcggtg | 12978 |
| aatttcagtg | attgcgctga | agggcgccac | acgatgaagg | cacttgtagt | gtcgggtggt | 13038 |
| tcggggaccc | gcctgcgccc | gatcagttac | gccatgccga | agcagctcgt | tccgatcgcc | 13098 |
| gggaagccag | tccttgaata | tgttctggat | aatatccgga | acctcgatat | caaagagggtc | 13158 |
| gccattgtcg | tcggtgactg | ggctcaggaa | attattgagg | caatgggtga | cggcagccgt | 13218 |

E1
Cont

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-------|
| ttcgggtctgc | gcctcaccta | catacgccag | gagcaacctc | tgggcatcgc | gcactgcgtg | 13278 |
| aaactggccc | gagacttctt | cgacgaggac | gacttcgtcc | tctacctagg | cgacatcatg | 13338 |
| ctggacggag | acctgtccgc | gcaggcgggg | cacttctctc | acacccgccc | cgccgcgcgg | 13398 |
| atcgtcgtgc | gccaggtgcc | cgacccccgg | gccttcgggg | tgatcgagct | ggacggcgaa | 13458 |
| gggctgtgtg | tgcgcttggg | cgagaaaccc | cgtgaaccgc | gcagcgacct | cgcggcggtc | 13518 |
| ggcgtgtact | tcttcaccgc | ggacgtgcac | cgcgccgtcg | acgcgattag | cccagccga | 13578 |
| cggggcgagc | tggaaatcac | cgacgccatc | cagtggctgc | tggagcaggg | cctgccggtc | 13638 |
| gaggccggcc | gctacacgga | ctactggaag | gacaccggcc | gggtcgagga | cgctcgaggag | 13698 |
| tgcaaccggc | ggatgctcgg | ccgtctggcg | ctccaggtgt | cgggcgaggt | ggacccgag | 13758 |
| agcgaactgg | tgggtgcggg | ggctcgctgag | gagggcgccc | gggtgacgcg | ttcgcgggtc | 13818 |
| gtgggaccag | cggtgatcgg | cgcgggcacg | gtcgctgagg | acagccagat | cggaccgtac | 13878 |
| gcctccatcg | gccggcgctg | caccgtgcgg | gcgtcccggc | tctccgactc | catcgctcct | 13938 |
| gacgacgcct | cgatcctcgc | ggtgagcgga | ctgcacggct | cgctgatcgg | aaggggcgcg | 13998 |
| cggatcgcg | ccggggcccc | gggagaggcc | cggcaccggc | tggctcgtcgg | cgaccacgtg | 14058 |
| cagatcgaga | tcgcggcctg | acgcaccac | cggagcaccg | gggggaggct | cggcaggggc | 14118 |
| gtcaggccgt | aagaagggt | gccggggcgg | gacggaccgc | ccccggcagc | ccacaggtcc | 14178 |
| ccggtccgcg | gatattgggg | actcgagggt | cgatcagccg | aagggtcagag | ccacgtggcc | 14238 |
| gaggtcgagc | ccggagttgc | cggcgccgag | gttacaggcg | gccgtggcgc | agtcgacgct | 14298 |
| gccgaccggc | gtgccttcgg | gcgtggagcc | cgtgtacgac | ttgcgcacga | cgaagctgaa | 14358 |
| <hr/> | | | | | | |
| cgacgccgct | ccggacgcgt | ccgtgggtgaa | ggacgtcgcg | gtcgccgggt | tgcacgcgtc | 14418 |
| ctggccaccg | accggagcgc | actgggcgat | gtagtaggtc | tcgccggcgg | cggcaccgct | 14478 |
| gaccgacacc | gacacgtctt | gtccgtcact | cagacccgag | gcgggactga | cggagaaggc | 14538 |
| gggcgcggcg | aaggcgacgg | actgtgcggc | ggcgccagg | ccgatggatg | cgacggccac | 14598 |
| gacgccgaac | ctggaagcac | ggcgggacat | gtgacgtaac | gacatgcgta | ggctccgatt | 14658 |
| cgaggagggg | gttgatcact | ccatgaaagg | atcacctcgc | cggacggccg | cctgcattctc | 14718 |
| cctctgtgct | ctcgtggatt | tccggcacgg | cactcccgtc | gacggccgcc | cgcagaatgc | 14778 |
| ggcagacccc | ccgcacctcc | tccggcccca | ccgccgtacc | ggtgggcagc | gacagcacc | 14838 |
| gctcggtag | cgccctccac | ttcgggagcg | gatcgggcgc | gtggcgcgcg | aggtcggacc | 14898 |
| ggtagggctc | gcagctgtgg | cagccggggc | tgaagtaggc | gcgggcccagg | acgttgtgcc | 14958 |

E1
Cont

| | | | | | | |
|------------|------------|-------------|------------|-------------|------------|-------|
| gttggagcac | cgcttgaggt | tcgtcgcggt | gcagcccggc | gcggacggcg | tccacctcga | 15018 |
| tgacgacgta | ctggcagttc | gacagctcgt | tcggatcctg | cgggcggacc | cggacgccgg | 15078 |
| gcagtcctgc | gaggtactgc | tcgtacagac | ggtagttgcg | ccggttgatc | gcggtgaagt | 15138 |
| gatcggcgga | ctccagggag | gtgaggccca | tggccgcgct | gatctcgtgc | atccgcgcga | 15198 |
| ccgttccgct | cccggtgatc | tcatgcgcgg | cgttgagccc | ctggtggcgc | atggcccgga | 15258 |
| gccggtcggc | cagggcgctc | tcgtcgggtga | cgatcgcccc | gccctcgaag | ctgttcacga | 15318 |
| acttcgtcgc | ctggaagctg | aagatctccg | ccgtgccgaa | gccgccgatc | ggcttcgacc | 15378 |
| ggtaggtgca | gccgaaggcg | tgggcggcat | cgaagagcag | gtgcagcccg | tgctcggcgg | 15438 |
| ccagcttggt | cagctcgtcg | atccggggccg | gtctgccgaa | gacgtgcacg | tccaggatgg | 15498 |
| cgcgggtacg | cgggccgatg | agccgctcca | cgtgtgccac | gtccgcgggt | ccggtctcct | 15558 |
| cgtccagttc | gcagaagaca | ggcaccgcac | cgatccagtc | cagtgcgtgg | gcggtggcga | 15618 |
| cccaggtgaa | ggagggcacg | atcacctcgt | ccccaggacc | gatgcccagg | gccttcgcgg | 15678 |
| cgacctggat | gccggtggtg | gcgttcgata | cggcgacgca | gtgcctgacc | tgggtcagct | 15738 |
| cggccacacg | ggcctcgaac | tcccggacca | gggggcccgc | attggtgaac | cacaggcgct | 15798 |
| ccagcgcccc | gtcgatccgt | tccatcaaac | ggtcgcggga | gcccacgttc | gggcgtccca | 15858 |
| cgtgcagcgg | ttcgtgaaag | tagggcggtg | gtagggagtc | cagacgcacc | gggccgcgcg | 15918 |
| tcatgccgtg | cgcacgccga | cgaagaggcc | ggggctgttg | ggccggccgt | cggccagccg | 15978 |
| gaagccgggc | acgaaccgca | ccgagagccc | caccgattcg | aaggcgtcgg | tgtactgctc | 16038 |
| gcggtgaag | aggctggagg | tcaggacctc | ggagaactct | ctgaagccgg | aggcgtccgc | 16098 |
| gacccggaac | cggacctcca | gacgtgactt | gtcgccctgg | cgcacggagt | gcgtcatccg | 16158 |
| cgtgatgaca | cgccctcctc | cctggtgcag | atggccgccg | acatgcccg | cgaggaagtt | 16218 |
| ctcggggaaa | taccagggtt | cggcgacgag | gactcccccg | gggttcaggt | ggtgggcat | 16278 |
| ggccgacacc | gcggccttga | gctcggtgac | ggaccccatc | tcgccgagcg | cgttgcccac | 16338 |
| gcaggtgatc | gcgtcgaagg | tgcggcccag | gtcgaacgaa | cgcattgtac | cggcgtgcag | 16398 |
| cgggacgccg | ggaagccggc | ccgccgcctg | ctccagcatc | gcgggcgcgt | actcgaggcc | 16458 |
| ctccacatgg | ccgaagagcg | tggcgagcgt | ctccagatgg | gctccggtgc | cgcaggcgac | 16518 |
| gtccaggagc | gacacggcgt | cggggcgggc | ggcgaggatc | agctcgggtga | gcccgcgggc | 16578 |
| ctccaggctg | aagtccttgc | cgcggctgcg | gaacacgagg | tcgtagaact | tcgcgtgctc | 16638 |

E!
Cont

| | | | | | | |
|------------|-------------|-------------|-------------|-------------|-------------|-------|
| ggggccgtac | tccatcagac | gagctccttc | gcagactggg | cggagatgat | tctgggctcc | 16698 |
| gggatgggaa | cgatgaactt | ccctcccgcc | tccaggaagc | ggcgctcctt | gcggacgacc | 16758 |
| tcgctcgggt | agttccaggc | gaggaggagg | tagtagtccg | gctcgggtggc | agcgacctcc | 16818 |
| tccggaggaa | ggaccgggat | gcgggttcccc | ggcagcagtt | tgccgtgctt | gaggctgggtg | 16878 |
| gtgtcgccgc | agacgggtgat | gtcctgatcc | gtcagaccgc | aggccatcag | caactgggtc | 16938 |
| cccttgagcg | gtgctccgta | gccgggccacg | cgggtggccgt | ccgcggccag | accgcgaacg | 16998 |
| agcgtacgga | tcgcttcggg | cacgcgcgtc | acccgctcgg | cgaacgcccg | gtaggggggca | 17058 |
| tccgtcagca | gtccgcgctc | ctcctccagg | ccgagcagcg | ccgcgaccga | gggctccggg | 17118 |
| acccgtgcgg | ccgactcggc | cgcgggcgacg | accgcgatcg | aaccgccgtg | cacggcgacc | 17178 |
| cgctccacgt | cgatgatccg | caggccgtgc | gcgccgaaga | ggtggcgag | tgtgtgcagg | 17238 |
| gagaagtacg | acaggtgctc | gtggtagatc | gtgtcgaact | ggttctcgtc | gagcaggttc | 17298 |
| agcaggtagc | gcacctcgat | gaccaggacg | ccgtcgtcgt | cgagcactgc | gtcgacgccg | 17358 |
| tccaggatgc | ggtgcacgtc | gtcgatgtgc | gcgaagcact | ggcggccgat | gacggccttg | 17418 |
| gccctgccct | gctcaagggc | gatgcggccc | gcgggctccg | ggccgaagaa | gtccgggtcc | 17478 |
| gtggggatcc | cccgggcgtt | ggcgatctcg | gcgagggttg | ccgccgggtc | gaccccgccc | 17538 |
| acccgcatgc | ccgccgccc | gaacatcgcg | agctgggtgc | cgacgttgct | gcccagctcc | 17598 |
| acgaccaggt | cgccggaggc | gaggcttgcc | cggcgggtcg | ccagcccagc | gatgtgcgcc | 17658 |
| atgtgctcgc | ggatctgggc | ggagtcggag | gagacgtaga | cgtagtgtt | gaacagtgtc | 17718 |
| <hr/> | | | | | | |
| ccggggtcga | cgacatggcg | aagcgtcatc | agccggcacg | accggcacac | gatgacgtcg | 17778 |
| agcgggaaga | cgctctgcgc | ctcatcggcg | tcggccggat | cgacgaacc | gttggccagc | 17838 |
| ggcagcgagc | cgaaggagat | cacctcggtc | cagtcgtccg | caccgcatac | acggcacgtc | 17898 |
| tcgtcccgc | tgcatttctc | cagcatgaag | tctcctgacg | gcgaatgccg | acgcacggg | 17958 |
| cccgtcggtc | cggggacggg | caatctaggg | ttccggccga | cgggcgctcc | acttcgtatg | 18018 |
| tgccctactg | gttcagcgga | gcggacgggt | gaacgcccgt | acgtcctcga | tgaggagctg | 18078 |
| cggtgctcc | atggcccgga | agtgcgccgc | gcggtcgaac | tcgggtccacc | gcgtcagggg | 18138 |
| cggcaggatg | ccctcggcga | acgaccggat | cggccgggtg | gcgtcgtccg | ggaacaccgc | 18198 |
| gacgccgacg | ggggccgtca | gcggccaggg | cccgcgccag | gtgcggggcga | agtccgccat | 18258 |
| gccgcgagcc | gactcgtagt | acaactgagc | gctggaaccg | gccgtcgcgg | tcagccagta | 18318 |

E1
Cont

| | | | | | | |
|------------|------------|------------|------------|-------------|-------------|-------|
| gatcatcacg | tgggtgagca | gccggtcccc | ggagatggcc | tcctccacgt | tcttgccgcc | 18378 |
| gctccactcc | tggaacttgt | cgagaatcca | ggcgagctgg | ccgaccgggg | agtcggtgag | 18438 |
| gccgtaggcc | agggctctcg | ggcggtggc | ctggatgcgc | tgccagccga | tgccggtgtc | 18498 |
| ggcgaactcc | ccgctgtgcg | ccagcttgcc | caggctcgtc | tcgtccaggc | gcccgatggc | 18558 |
| ctccggggcg | tcctggggcg | ggaaggtcac | cagcatgttc | aggtggacgc | cggccacgtg | 18618 |
| ctcggggctg | gccagcccca | gctccagcga | gacgaccttt | ccccagtcgc | cgccttgggc | 18678 |
| gacgtaacgc | tcgtagccga | ggcggttcat | cagctccgcc | caggcgctg | cgatccgccg | 18738 |
| cacgtcccag | cccggctcgg | cagtcggggc | ggagaagccg | tagcccggca | tggaggggac | 18798 |
| gacgacgtgg | aaggcgctcc | ccgggtcgc | gccgtgcgcg | cgcgggtcgc | tcagcggccc | 18858 |
| gatgacgtcg | aggaactcgg | cgaccgagcc | cggccagccg | tgggtgagga | tcagcgggat | 18918 |
| cgcgtccggc | tcgggcgaac | gcacgtgaag | gaagtgcacg | tcggcgccgt | cgatcgtggt | 18978 |
| gacgaactgg | gggaacgcgt | tcagctcggc | ctccgcggca | cgccagtcgt | agccgtggcg | 19038 |
| ccagtggctg | gtgagctcct | tgaggtagga | cagcggcact | ccgcggctcc | atccggatcc | 19098 |
| gggtatctcg | gacggccacc | gggtcgcgtc | gatccgccgg | gttaaggctg | tcgaatgtcg | 19158 |
| gactgggtcg | atctcgatac | ggaagggacg | cacagtgaat | ccaccctcgt | gattgtggga | 19218 |
| gccccggggc | gcgagggcgc | cgccccgatg | tgatccgggg | accgtgtctc | aggccggttc | 19278 |
| ggccggcgcg | gccgcgcctt | cccgtgcgga | gaaggaccgc | acggaggaca | ggaagttgcg | 19338 |
| gatcatcggc | atgccgtggt | cggctccgga | gctctccgga | tggaaactgga | cggactccac | 19398 |
| <hr/> | | | | | | |
| cggcagcgaa | cggtggcgca | ggcccatcac | gtaccgcgtc | tccgtggagc | gcccgggtgac | 19458 |
| ctcgagggac | ggcgggaccg | tgccttcgg | cacgatcagt | gagtggtagc | gggtcgcgaa | 19518 |
| gaaccccgcg | ggcagcccg | tgaacactcc | gcgccgctc | tcgtgatcc | ggctcgtctt | 19578 |
| cccgtgcatg | agatgccggg | cggggacggt | ggcgccgccg | taggcgcggg | cgacggcctg | 19638 |
| atgccccaga | cagaccccca | gcagcgggac | ccggccggcg | aaggcctgga | cgatctcgac | 19698 |
| gtgcccggag | gtgtcgggg | ggccggggcc | cggccccagc | aggaccgcgt | ccggccgcat | 19758 |
| cagccccatc | tcgtccgggg | tcatgagatg | cgaccgcacc | atgacgggct | ccgcgccggc | 19818 |
| ggacatcaga | tactggcgca | ggatgtcgac | gaagctgtcg | aacgcgtcga | ccaccaggac | 19878 |
| ccgccccggc | tcggtgcctg | cgccggatcc | gtcgggagac | cacaagctca | cagcaactcc | 19938 |
| tctccggtga | ccgcccagtg | agtggcgctc | atcttggcca | gcgtctcgg | ccactccgcc | 19998 |

E1
Cont

| | | | | | | |
|-------------|-------------|-------------|-------------|------------|-------------|-------|
| cccgggttcgg | aatcgggcgac | gattccgggcc | gagggcccggg | tgcggtagac | gccctcgtgg | 20058 |
| tggaaaaggg | tccggatgca | cagcgcgagg | ttggtgtacc | cgcccacgtc | gaggaggccg | 20118 |
| agcgcgcccg | cgtacaggcc | gcgggcggtg | cgttcgacgg | actcgatgat | ctccatggcg | 20178 |
| cggatcttcg | gcgcgcccgt | catggtgccc | gcggggaaca | gggcggcgat | ggtgtcgaag | 20238 |
| gcacggtgt | ccaccgcgc | ccggccgacg | accgtggaga | ccaggtgcag | cacgtgggag | 20298 |
| tagccctcca | cgtccagctg | gtcgggtacg | tcgagcgtgt | tcggccgggc | gatccgtccg | 20358 |
| atgtcgttgc | ggcagaggtc | caccagcatg | gtgtgctcgg | cgatctcctt | gggatccgac | 20418 |
| ctcagccgga | ctcccggggc | gatgccgcgg | tccgcgcggg | accgcggcac | cgtgcccgcg | 20478 |
| atcggccgca | tctgacctc | gccgtcctcg | atgcgtacga | acagctcggg | gctggcgccg | 20538 |
| atcagacggt | gcccgtcgat | gcccgccaga | tacatgtacg | gggaggcggt | ccgccgcgc | 20598 |
| aggcgctggt | agacgtccgc | ggggtcggcc | gtcgagcgga | tggagagctc | gtgaccgata | 20658 |
| tgcacctggt | agatgtcgcc | gacggcgatg | tgttcagac | accgctcgac | gtcgttcgcg | 20718 |
| aacacttcgg | gggcgctgtc | gtcggtgacc | gcggaggcgg | ggaagccgtc | tgcggacgga | 20778 |
| tcgggccagg | cctgctccac | gtcggcgagg | agcccgggtga | cggctctccg | cgcgaggccg | 20838 |
| ggccagtacg | gggactcgtg | gagcagcagt | tcgcatcggc | cggtgggcag | atcggtgacc | 20898 |
| acgtgcccc | ggtgcaggac | catgcgtacg | tccggcaggc | caggccgggt | ctcgatgagg | 20958 |
| tggggcaggt | cctcgatgta | gcggggcgtg | tctgacccga | agaacccgag | gaacccgaag | 21018 |
| cggaagccgg | acgcggaccc | ctcggcgctg | aacatgtccc | gcattggccc | cagcagcggc | 21078 |
| cacaacccgc | ccgcgggtacg | cagccgcagc | ccctggggggc | cgctctccag | gagcgcgccc | 21138 |
| gcccgtccca | ggagcaggcc | ccgcagggcg | ggtacgcctt | cgacgcgcac | caccgggtcg | 21198 |
| gtgaccgaga | gcgagagcag | cgcgccgaag | ccgacgaact | ggtgcctgcg | gtcgcggggc | 21258 |
| gggcggggcg | cggactccag | gaggtagacc | tctgcggggc | cgaagtgtc | ggccagcgcg | 21318 |
| cggtaggcgg | gcagggcgcc | cgtctccttc | acatcgaggc | gtcgtgtccg | caccgcacc | 21378 |
| ggggccgaga | ccacgcactg | gtcggtcac | ctgggtcctc | ccggatcacg | tggatgatgg | 21438 |
| gtagcgggtg | gccacctgac | gggcggtcag | caccgcccgg | tcggggccgg | agcggttgtc | 21498 |
| gacgacgcgc | gcggccttcc | agctgacgaa | ggagccgggt | tgggtcacgg | ggtcgaggtc | 21558 |
| ggtgtccacg | acgatgccgg | cgtgcgcgcc | ggtccgctcc | ctgagccggg | cggcgacggc | 21618 |
| ctcgccgatg | ccctgccgtt | ccccctcggc | gccggccagc | aggtccatgc | gcacgggtgac | 21678 |
| ggcgtcgctg | ccgtcgtcct | gccggtcgat | gacgacctgg | tagccgaggc | agccgccgac | 21738 |

E1
Cont

| | |
|--|-------|
| cccgtcgagg atcgcgccct ccagctcggc gggctggagg gtcacgtcgc ccagggggat | 21798 |
| gggttcgcgc acccgccga tgacctggat ccgcgggtccc ggcagcggct ccccggggcc | 21858 |
| cgccgggagg atgcggacca ggtccccggt gcggtagcgg atcagtgggt tgatgccgtc | 21918 |
| caccagcatg gtgaggacga gttcgccctc tcccggtgcg ccgaccacgg cgccgggtgc | 21978 |
| cggttcgacg agttcgggtca agtagttggg ctgggcgagg tggagcgcgc cgggtgtccgc | 22038 |
| tccgggtggcg atgcacaggg ctctcctggga gccgtagagc gtggggccgca cgacggcttg | 22098 |
| cggccagagg gtgcgccagt tgtcggcgaa ctgcgggggtg cagatctcac ccagcgtgag | 22158 |
| gaagagcttc acgggaagcc gggccaggtc gtagccgtag tgcagggccg ctttggaag | 22218 |
| gtcaggcac agcgccggag cacagacgac gacctcgacc tccagctcct cgatcagccg | 22278 |
| cagcgcctta cggaatccca ccctggggga ctcgggccag atcttgacgt gacaggcccc | 22338 |
| cagctccgct gccaccgcgg tgaacacgtc cccgaacgcg tacagctccg acggccccat | 22398 |
| caggccccacg acgggcatcc gcccccgaa cctcgcttcc agcatgcggc gccaggactc | 22458 |
| ccggacggcg atgttgctgg tgcgatgtc cttctcgccg cgtgggcacg ggggtggccgc | 22518 |
| cccggtggtc ccggtggtct cgtagtagat gcgtgcttcg tgcagcgggc ccgacaggac | 22578 |
| gtcgtgcac tcccgccgca ggtcgtcctt ggtggtgaag ggcagggtccg ccaggttcgc | 22638 |
| gggggtgacg gcctcgacgt ccacgcctgc cagatggcgg cggtagaacg gcgagcggcg | 22698 |
| ggtgacgtgg cgcagtacgg ccgtcagccg ttcgccctcc cagcgtcgc ggtcggcggc | 22758 |
| ggtgagttcg ccgcggtaga acgcgtcgct cacctgcccg taggcggacc agaactcgct | 22818 |
| gtccgcgtcg gggccagcg gcccggtccc gccgggaccg ggccgcccgc cgtctctcac | 22878 |
| ggctgtgcct ggagttcggt gagcgcgagg ccgaccgct cgttgacctc gttggaggcc | 22938 |
| agcacgtccg aacggccggt gagccgacgg tgttcgtcga gcagttcgat catgtccgtc | 22998 |
| atcctctcga ccaggcgca gacgttggtg aggcctcct cgtccttgag cgcgtcgccc | 23058 |
| cgggtgcagcg cgtgcaccgt cgccgggaag ccgctgccc aagatcat ccggttgagc | 23118 |
| agggcattga cggtcagctg agccataacc tcgccggcgc tgtagcggcg ggcagccgag | 23178 |
| atgatcccc cgacctgtt gtcagcggc cggtcgaagc gcagataacc gactccggca | 23238 |
| cgctcgatga aggtctgcat gaggctggcc gtgccgaatc cgtgcacggg cgccgcgaag | 23298 |
| atgatcccg ccgcgcgac catcttcgcc acgacctcg gcaccccgtc ggccagggtg | 23358 |
| caggccaccg gcctgtcgtt gcagtcctcg caggggccgc accgctccat cctgatcgag | 23418 |

E1
Cont.

| | | | | | | |
|-------------|-------------|------------|------------|------------|-------------|-------|
| cgcaggtcga | cggcctcgaa | gtcgacgccg | cggttctctg | ctacgcgtgc | cgcgtgccgc | 23478 |
| agtacgtcgg | cgggtgttgcc | gtcacgttcc | gaaccgttga | tcgcgaggat | cttgagttgt | 23538 |
| gcgctcacga | ggggcctcct | tggtgagtca | ggtgcgctcg | gcggtcggct | cgggggaact | 23598 |
| gtctggccgc | cgctggtcgc | ggagccgcag | ggccggctcg | gcgggggcgg | gaggaagacc | 23658 |
| gccccgcggc | gggcccacc | gctcgccgaa | ccggatgagg | ggcttctcga | cgagatagaa | 23718 |
| gctgatggtc | gccagcacga | cgctgatcga | gatcgtgaag | aggaacagtt | cccagaaccc | 23778 |
| catgtcacc | cggaattccg | gcgttggcac | gggagacttg | ccgaagatgc | tgccgttcct | 23838 |
| gagccagagg | ttgatcacga | tctcgtgcc | gaggtagacg | ccgagggaga | tctggccgag | 23898 |
| gaagaggatc | ggcttgctgg | tgaagagcgc | gtccgagaac | cgggactcgg | cgccggggac | 23958 |
| cgtcatcggt | gccaggagca | gcagggtgaa | ggaggtcagg | atgaagtggg | cgacgagctc | 24018 |
| ctggggccagg | gccgcgttgt | cgcccatgcc | cgggatgccg | atgggcttgg | tggcgtagag | 24078 |
| gaggtacagc | gggatgagcg | ggaccagca | gatcagcggg | cgccggatca | cgaaacggta | 24138 |
| gaagcccggg | gtccctggcg | tcgcctcggc | gtacgcggag | tagatggcca | gtgccatgcc | 24198 |
| cgcggcgaag | cagccggcgt | agtagggcgg | ccagtaccac | tgcatcgtcg | cgccgggtga | 24258 |
| ggggagggtt | gtgtacgtga | cccagccgat | ggccatgact | tccagcgcgg | ccagcggcag | 24318 |
| caggaggcgg | cgtgccttct | gcccgggagt | gctgccgccc | cgcgcgagcc | ggtggccgat | 24378 |
| ccaggcgatc | agcggcaggg | cgaggtagaa | cgtgaactcg | gcggggaccg | tccaggtggg | 24438 |
| ctcgatgccg | tgcatcggt | ggccctcggg | cagatagaag | tgcatgagca | gcacgggccc | 24498 |
| caggacgtcg | ctgacgtctg | cgatctcgaa | ccagttgtag | cgggggattg | cgaagacgag | 24558 |
| caacaggtag | taggcgggca | ggatgcgcag | ggcccggcgt | ttgaggaacc | gtccgggtggc | 24618 |
| ggggcgcttc | gtcccactga | tggtgacgcg | ggcgtagggc | ttgtacagca | tcattccgga | 24678 |
| cagagcgaag | aagggggaag | gcataccccc | agaccgtccg | cgaggacgcc | ccagaacggg | 24738 |
| ttgcccggct | caccgacgaa | gctgcccact | ccggcctgga | aggcgacgtg | gtagacgacc | 24798 |
| acaccagcg | cgaggacacc | tcgcagtccc | tcgaacttcg | gtattcgctt | gctttttgcg | 24858 |
| ccacctgcgt | cgcaaggac | gtccccatg | gaacagtccc | ctttcccttg | gcacttgctc | 24918 |
| gttgacttcc | cgaaatagtc | gggtctgcgg | agtgtgagcc | gcattctcaa | tcgtgctgtt | 24978 |
| ccggtgctca | ggacgacttg | tttcggcctg | agtgggaagg | cagccacccc | cgccgccccg | 25038 |
| cctcggccag | accggggggc | gaggagtccc | gttccgagag | gatcggagtg | atctccggcg | 25098 |

E
Cont

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------|
| gccaggcgat | gcccacctcc | ggatccagcg | gattcaagcc | atgttcgagc | cgggggctgt | 25158 |
| aggccgccga | gcacaggtag | acgatcaccg | cctcgctcgt | cagcgtgagg | aatccgaagc | 25218 |
| ccagccccgc | ggagacgtac | agcgcccgtc | cgttctcttc | gccgagctcc | acgggtccgcc | 25278 |
| agccgccgaa | ggtggggcgac | cccacccgga | tgctgaccac | ggcgccgaac | acgctgcgcg | 25338 |
| gcaggcagct | gaagtacttg | gcctggccgg | gtacgcccc | ggcgaagtgg | atgccccgca | 25398 |
| gcaccccggtg | ggaggagatc | gcgcagttcg | cctgccgcag | gtcgaaggag | tggcctacgg | 25458 |
| tgccggcgaa | gggtctcgcc | tgggaacct | cgcgaaacga | gccccgttcg | tcacggaaga | 25518 |
| cctgtttctc | ctcgtccac | gctcccagaga | tcccgatcgg | cttcacgtct | ggcccccttct | 25578 |
| ctcgacttct | ctcgacgact | cgcgggaggg | ggccgagggg | tccgccgggc | ccgtgggaac | 25638 |
| gccgcagtct | agatgcggcg | gcaccggggg | caggggggtg | cggacgacgt | ccgccccacc | 25698 |
| tcagcacacc | gggagatgca | ggtcgggtgac | gggcgacgtg | acgatgcaac | ggtccgaggg | 25758 |
| ccggttgccc | ggacgacggc | ccacagagcc | atcggagcaa | cggaggcgga | ccgcagatga | 25818 |
| ccaagcacgc | ccgtgaccgc | gcggtagtcc | tccggcgagg | gatggcgggg | ctgctcgccg | 25878 |
| cgcgcgtcct | gtccgagacg | tacaaggaag | tgctgggtgat | cgaccggggac | cggttggggcg | 25938 |
| gcacggagca | gcgccgcggt | gtcccgcacg | gacgccacgc | ccatgcgctg | ctggccaagg | 25998 |
| gacagcagat | cctcaacgaa | ctcttccccg | gactcgacac | cgaactcacc | tcggccggaa | 26058 |
| tccccgcggg | ggacatcgcc | gggaacctgc | ggtgggtactt | caacggccgc | cggtctccagc | 26118 |
| ccttcgacac | cggtctgatc | agcgtctcgg | cgacgaggcc | cgagctggag | tcccacgtgc | 26178 |
| gcgcacgggt | cgccgcgctg | ccacaggtga | agatcatgga | cgggtgcgtg | atccggggcc | 26238 |
| tgaccgcctc | ggccgaccgc | agccgcgtca | ccggtgtcga | ggtgggtcgac | gagtcgggta | 26298 |
| cggacacccc | gacgcgcctg | gaggccgacc | tcgtcgtcga | cgtcacgggg | cgccggtcgc | 26358 |
| ggactccccg | ctggctggag | gagttcggat | acgagcggcc | cgcggaggac | cgcttcaaga | 26418 |
| tcgatctggc | gtacaccacg | cgccacttca | agctcaagga | agaccctac | ggcacggacc | 26478 |
| tgctgatcaa | cccggtagga | tcgccgagca | accgcgcggg | cgcgttcttc | ccccggctcg | 26538 |
| cggacggcag | ctcccagctc | tccctcaccg | gaatcctcgg | cgaccacccg | cccaccgacg | 26598 |
| acgagggtct | cctggcgctc | gccaagtcgc | ttgccgcgcc | ggagatctac | cgggccgtcc | 26658 |
| gcgatgccga | acctctcgac | gaaccgggtca | ccttcgcgtt | cccggcgagc | gtccgccgcc | 26718 |
| gttacgagag | gctgcgccgt | ttccccggcg | ggttcctcgt | catgggcgac | ggcgtgtgca | 26778 |
| gcttcaaccc | cgtctacggc | cagggcatga | cggtcgccgc | cctggaggcc | gtggcgctgc | 26838 |

E1
Cont

| | | | | | | |
|-------------|------------|-------------|------------|-------------|-------------|-------|
| gggaccactt | gcgcgacgcc | ccggaccccc | acgccctgcg | cttcttccgg | cgtatctcca | 26898 |
| cggtcatcga | cgttccgtgg | gacatcgccg | ccggagcgga | tctgaacttc | cccggggtgg | 26958 |
| agggcccccg | caccatgaag | gtgaagatgg | ccaacgccta | catggcccgc | ctgcacgcag | 27018 |
| cggcagccgt | cgacggcgcg | gtgaccgggg | cgttcttccg | ggtggccggg | ctggtggacc | 27078 |
| ccccgcaggc | cctgatgcgc | ccctccctcg | ccctgcgggt | catgcgcaac | tcctcggcga | 27138 |
| agccgtcgg | cccttcgggc | gccgcgctat | gaccgcgcgg | cccgtccggg | gcggctgccg | 27198 |
| gggccaggag | ccgacatgcg | ggtgatgac | acggtgttcc | cggcgcgggc | gcacttctcg | 27258 |
| ccgctggtgc | cctatgcctg | ggccctgcag | agcgcgggcc | acgaggtatg | tgtcgtggcg | 27318 |
| cccccgggct | atcccaccgg | ggtggccgac | cccgaacttc | acgaggccgt | caccgcggcc | 27378 |
| ggcctgaagt | cggtgacctg | cgggcagccg | cagccgctgg | cggtccacga | ccgcgacgac | 27438 |
| cccggctacg | cggcgatgct | gccgaccgcg | gcggagtcgg | agcgtctacg | ggcggccctc | 27498 |
| gggatcagcg | agaaggagcg | ccccacctgg | gacgtcttct | accacttcac | cttgctggcg | 27558 |
| atccgcgact | accatccgcc | gcggccgcgg | caggacgtgg | accaggtgat | cgagttcgcc | 27618 |
| cggatctggc | agcccgatct | ggtgctgtgg | gacgcctggt | tcccctcggg | cgcgatcgcg | 27678 |
| gcgcgggtca | gcggcgccgc | gcacgcgcgg | gtgctcgtag | cccccgacta | caccggctgg | 27738 |
| gtcaccgagc | ggttcgccgc | cgcggggccc | gcggcggggg | ccgacctctc | ggccgagacg | 27798 |
| atgcggccgc | tggccgagcg | gtacggcggt | gaggtcgacg | acgatcttct | gctcggacag | 27858 |
| tggacgggtca | atccgttccc | ggcgcgcgatg | aaccgcgcga | cccggctcac | gaacgttccg | 27918 |
| gtgcgctacg | tgcctacac | cggtgccagc | gtcatgccc | cgtggctgta | cgcgcgggccg | 27978 |
| tcgcggccgc | gggtggcgct | gtcgtctgga | gtgtccgcgc | gggcgttctc | caagggtgac | 28038 |
| tgggggcgta | ccgccaaact | gctggaagcg | gtcgcggagc | tggacatcga | ggtgatcgcc | 28098 |
| acgtcaacg | acaaccaact | ggcggagagc | gggccgctgc | cggacaacgt | ccacaccctc | 28158 |
| gactacgtac | cgctcgacca | gttgctgccc | acctgctcgg | ccgtcatcca | ccacggatcg | 28218 |
| acgggcacct | tcgcgcgggc | gagcgcggcc | gggctgcccc | aggtgggtctg | cgacaccgac | 28278 |
| gagccccctc | tgtcttccgg | cgaggacacc | cccgcggcga | tcgcgtggga | cttcacctgc | 28338 |
| cagaagcagc | tcaccgcgac | gtcacctcc | cgcgtggtca | ccgactacgg | ggcgggggtg | 28398 |
| cgcgtcgacc | accagaagca | gtccgccgga | cagatccgtg | agcaactacg | cagggtgctc | 28458 |
| accgaacctt | ccttccgcga | gggcgctcga | cggatccggg | aagaccggaa | ttccgcccc | 28518 |

E¹
Cont

agccccggtcg aactcgtatc gtccttggtga gaactgacga agcgtcatcg ccgtgacaag 28578
 gaggcgggacc gatgaggatg ctggtgacgg gcggagcggg tttcatcggc tcgcagttcg 28638
 tgcggggccac actgcacggc gagctgccgg gttccgagga cgcgcgggtg acggctcctgg 28698
 acaagctgac gtactccggc aatccggcca acctcacctc cgtcgcggcc catccgcggt 28758
 acaccttcgt ccaggggcgac accgtcgacc cgcgcgtcgt cgacgaggtg gtcgcgggcc 28818
 acgacgtcat cgtccacttc gggcgaggat cgcacgtgga ccgctcgatc gacaccgcca 28878
 cccggttcgt caccaccaac gtgctcggga cccagacgct gctggaagcg gctctccggc 28938
 acggggtcgg ccggttcgtg cacgtgtcga ccgacgaggt ctacgggtcg atcgctccg 28998
 gtcctatggac cgaggacacc ccgctcgccc ccaacgtccc ctacgcggcg tcgaaggcgg 29058
 gttcggacct gatggcgctc gcctggcacc gcaccggggg cctggacgtc gtcgtcacc 29118
 ggtgcaccaa caactacgtt ccctaccagt accccgagaa ggtgatcccg ctcttcgtca 29178
 ccaacatcct cgacggcttg cgggtgcccc tgtacgggga cggcgccac cgccgggact 29238
 ggctgcacgt gtccgaccac tgccgggcca tccagatggt catgaactcc ggccggggcg 29298
 gggaggtcta ccacatcggc ggcggcaccg aactctccaa cgaggaactc accggcctgt 29358
 tgctcacggc gtgcggcacc gactggctct gcgtggaccg ggtggccgac cggcaggggc 29418
 acgaccgcg ctactcgctc gacatcacga agatccggca ggaactgggc tacgagcccc 29478
 tggctgcctt cgaggacggc ctggccgcga cgggtgaagt gtaccacgag aaccgttcgt 29538
 ggtggcagcc gctgaaggaa gcggccggcc tcttggaagc cgtcgggtga cggcagccac 29598

 cgctaggaac accccaggaa aggagccacc tccgtgacag cagtcaagga gccgacgtcc 29658
 cgcgaggac ggcgggagtg gatcgctctc gtcgtctct ccttgccac gatgctgttg 29718
 atgctggaca tcaacgtct catgctggcc ttgccgcagt tgagcgagga tctcggcgcg 29778
 agcagcacgc aacagctgtg gatcaccgac atctacggat tcgcgatcgc cggcttctcg 29838
 gtgaccatgg gcacctcgg cgaccggatc ggccgcgcga ggctcctgct cggggggcgcg 29898
 gccgtcttcg cggctcgtgc cgtcgtcgcc gcgttctccg acagcgcggc gatgctcgtc 29958
 gtcagccgcg ccgtgctcgg cgtcgccggg gccacggtga tgccctcgac gctcgcgtc 30018
 atcagcaaca tgttcgagga cccaaggag cggggcaccg ccatcgccat gtgggcgagc 30078
 gccatgatgg ccggagtcgc cctcggggcc gccgtcggcg gcctggctct cgcgcgttc 30138
 tgggtggggat cgggtgttct catcgccgtt ccggtgatgc tgctgggtgg ggtcaccggc 30198

E
 cont.

| | | | | | | |
|-------------|------------|-------------|-------------|------------|-------------|-------|
| cccggtgctgc | tcaccgagtc | ccgcgacccg | gacgccggac | ggctggacct | gctgagcgcg | 30258 |
| gggctctccc | tcgcgaccgt | gctgccgggtg | atctacggac | tgaaggagct | ggcccggacc | 30318 |
| gggtgggacc | cgctcgccgc | cggcgcggtg | gtcctcggcg | tgatcttcgg | cgcgctgttc | 30378 |
| gtccagcgcc | agcggcggtt | ggccgacccc | atgctggacc | tcggcctctt | cgccgaccgc | 30438 |
| accctgcggg | cgggtctgac | ggtcagtctg | gtcaacgccg | tcatcatggg | cgggaccgga | 30498 |
| ctgatggctg | ccctgtacct | ccagacgac | gccggtcact | ccccgttggc | cgccgggctg | 30558 |
| tggtgctga | tcccggcctg | catgctcgtc | gtgggcgtac | agctgtcgaa | cctgctggcc | 30618 |
| cagcggatgc | ccccttcccg | ggtgctgctg | gggggactgc | tgatcgccgc | cgtcggacag | 30678 |
| ctcctgatca | cccaggtgga | caccgaggac | accgccctcc | tcatcgccgc | caccaccctg | 30738 |
| atctacttcg | gcgcctcacc | ggtggggccg | atcaccacgg | gcgcgatcat | gggagccgcg | 30798 |
| cccccggaga | aggcgggtgc | cgctcgtcg | ctgtccgcca | cggcgggcga | gttcggagtg | 30858 |
| gcgctcggca | tcgcgggcct | ggggagctctg | ggcaccgtcg | tgtacagcgc | cggggtcgag | 30918 |
| gtgccggacg | cggccggggc | cgccgacgcc | gacgccgcgc | aggagagcat | cgccggcgcc | 30978 |
| ctgcacacgg | ccggtcagct | ggcaccgggc | agcgccgacg | ccctgctgga | ctccgcgcgc | 31038 |
| gcggccttca | ccagcggcgt | gcagtcgctc | gccgcgctct | gcgccgtggt | ctccctggcg | 31098 |
| ctcgccgtcc | tcatcggcac | cgggtgcggg | gacatttccg | cgatggacca | cgggcacggc | 31158 |
| gaggaaccgg | ccgagaacga | cgctcaaccg | gccacatgag | cgcacttccg | gagatgcaac | 31218 |
| ggccgcgctc | gaggtatgag | gatcaccttc | cggggtgcac | ctgcacggca | acggaggcgt | 31278 |
| agtggagtac | tggaacagca | cggcggagac | catgccccgc | caggaactcg | aacagtggaa | 31338 |
| gtggcgcagg | ctccaggccg | ccatggacca | cgccagaagg | ctttcgccct | tctggcgggga | 31398 |
| acgactcccc | gagaacatca | cctccatggc | ggactacgcg | gcgcgggtgc | ctctcctgcg | 31458 |
| caaggccgac | ctcctcgccg | cgggaagccgc | gtctccccct | tacggcacct | ggccctcgct | 31518 |
| ggatccggcg | ctcggagtgc | gccatcacca | gaccagcggc | accagcggta | acccccccat | 31578 |
| ccggacgttc | gacaccgaac | gcgactgggc | ctggtgcgtg | gacacgttct | gcacggcgct | 31638 |
| ccacagcatg | ggcgtgcgcc | cgcaccacaa | gggtctggtg | gcgttcggct | acgggctggt | 31698 |
| cgccgggttc | tggggcatgc | actacggcct | cgagcgcgatg | ggcgccacgg | tcatcccggc | 31758 |
| cggcggcctc | gactcccgtc | cccgggtacg | gctgctggtc | gactaccaga | tcgaggtgct | 31818 |
| cggcctcaca | ccgagctatg | cgatgcggct | gatcgagacg | gcccgcgaga | tgggcatcga | 31878 |

E1
Cent

| | | | | | | |
|-------------|------------|-------------|-------------|------------|-------------|-------|
| cctcgccccg | gaggctaacg | tccagatcat | cctggccggg | gcggagccgc | gctccgcgtt | 31938 |
| caccacccgc | accatcgagg | aggccttcgg | cgcccgggtc | ttcaacgccg | cgggcaccac | 31998 |
| tgagttcggg | ggggtgttca | tgttcgagtg | caccgccccg | cgcgaggcct | gccacatcat | 32058 |
| cgaaccctcg | tgcatcgagg | aggtgctcga | cccggtgacg | gaacagcccc | tcggctacgg | 32118 |
| cgaggagggc | gtccgagtc | ccaccgggct | gaaccgtgag | gggatgcagc | tcttccggca | 32178 |
| ctggaccgag | gacgtcgtgg | tcaagcggcc | ccacaccgag | tgcggtgcg | gccggacgtg | 32238 |
| ggactttctac | gacggcggca | tccttcggcg | cgtggacgac | atgcgcaaga | tacgcggggt | 32298 |
| ctcgatcacc | ccggtgatga | tcgaggatgt | gctgcgcggc | ttcgacgagg | tgaacgagtt | 32358 |
| ccactcgtcc | atccggaccg | tccgcggact | cgatacgatc | cacgtcaagg | tcgaggcggg | 32418 |
| agacatctcg | ggtgaggcgg | ccgagagcct | gtgcggccgc | atcaccgagg | agttcaagcg | 32478 |
| tgagataggc | atacggcccc | aggtggagct | gacccccgcg | ggcagcctcc | cccgatcgaa | 32538 |
| gtggaaggcg | gcacgacttc | atgacgagcg | cgaactcgcc | cctcaggcct | gagcaggtgg | 32598 |
| agcagctcct | ggtgagctac | cggagcctgg | gcctgctgga | gcagagctgc | gcggtcccgg | 32658 |
| ccgtgctcgc | cgcggtcagg | gccgcccgtg | cggaactccg | tatcgccctg | gacggccagg | 32718 |
| gcgtggagtt | cgagtactac | cgggggcacg | acgacagcct | cgtggcctga | acccaccccc | 32778 |
| ggtccgcccg | gtcagacgaa | agggagaccg | gtgccccacg | gtgcagagcg | cgaagcgagc | 32838 |
| ccggccgagg | agagcgccgg | cacccgcccg | ctgaccggcg | aggagtatct | ggagagcctg | 32898 |
| cgggacgcgc | gggaggtgta | cctcgacggc | agccgcgtca | aggacgtcac | cgcgcatccc | 32958 |
| gcgttccaca | acccggcccc | gatgacggcc | cggctgtacg | acagcctgca | cgacccccgc | 33018 |
| cagaaagcgg | tcctgacggc | gcccaccgat | gccggtgacg | gtttcaccca | ccgcttcttc | 33078 |
| accgcaccgc | gcagcgtcga | cgacctggtc | aaggaccagg | ccgccatcgc | atcctggggc | 33138 |
| cgcaagagct | acggctggat | ggggcgcagc | cccgaactaca | aggcgtcggt | cctcggcacg | 33198 |
| ctggggggcca | acgccgactt | ctacgagccc | ttcgcggaca | acgcccgggc | ctggtaccgg | 33258 |
| gagtcgcagg | agaaggtgct | gtactggaac | catgccttcc | ttcaccgcgc | ggtcgcaccgc | 33318 |
| tcgctgcccc | ccgacgaggt | gggcgacgtc | ttcatccacg | tcgagcggga | gaccgacgcg | 33378 |
| ggcctgggtg | tgagcggggc | caaggctcgtc | gcgaccggat | cggccctcac | ccacgcggcg | 33438 |
| ttcatctcgc | actggggact | tcccatcaag | gaccggaagt | tcgccctggg | ggccaccgtg | 33498 |
| ccgatggacg | cggacggcct | caaggtgatc | tgcgctccct | cctactccgc | aaacgcggcg | 33558 |
| accacggggc | gcccgttcga | caaccgcgtg | tcctcacggc | tggacgagaa | cgacgccatc | 33618 |

E!
Cont

| | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------|
| ctcgtactcg | accaggtgct | gatccccctgg | gagaacgtgt | tcgtctacgg | caacctgggc | 33678 |
| aaggtacatc | tcctcgccgg | acagtccggg | atgatcgaac | gcgccacctt | ccacgggtgc | 33738 |
| acccgggctcg | ccgtgaagct | ggagttcatc | gccgggctgc | tggccaaggc | gctggacatc | 33798 |
| acccggggcga | aggacttccg | cggtgtgcag | acccgggctcg | gagaagtcct | ggcctggcgc | 33858 |
| aacctcttct | ggtcactgtc | ggacgcggcg | gcccgcgaacc | ccgtccccctg | gaagaacggc | 33918 |
| acgctcctgc | ccaaccctca | ggcgggtatg | gcctaccgct | ggttcatgca | gatcggctac | 33978 |
| ccgcgggtcc | tggagatcgt | ccaacaggac | gtggccagcg | gcctcatgta | cgtcaactcc | 34038 |
| tccacggagg | acttccgcaa | ccccgagacc | ggccccctact | tggagaagta | cctccggggc | 34098 |
| agcgacggcg | caggcgccgt | cgagcgtgtc | aaggtgatga | agctgctgtg | ggacgcgggtg | 34158 |
| ggatccgact | tcggcgggccg | gcacgaactc | tacgagcgga | actactccgg | gaaccacgag | 34218 |
| aacacccgga | tcgagttgct | gctgtcgcag | acggcgagcg | gcaaactgga | ctcgtacatg | 34278 |
| gacttcgccc | aggcatgcat | ggacgagtac | gacctggacg | gctggaccgc | tcccgacctg | 34338 |
| gagtcgtttc | acgcgatgcg | ttccgcctcc | cgcgaccttc | tcggaggggt | gtagttcccc | 34398 |
| gacgggtgtac | tgcggccccc | gatccggggg | ccgcagtaca | ccgtcggggc | ggctgggtgct | 34458 |
| cagccgcgca | ggaatccgat | gagctcgggg | gcgagcttct | tgggcgccat | ggcgacggca | 34518 |
| ccgtgggttga | gcccgttcag | ggtgcgggtg | ctcgcgtcgg | ggaggactcc | ggtgagttcc | 34578 |
| ttcgcggcac | gctggaaacc | gtcggggctc | ttggaaccgg | tcagcaccag | ggtcgggggc | 34638 |
| gacgccgcg | accacggctc | ggcggggagc | ggcttgccct | gctgggtgtc | gcccatacc | 34698 |
| gcgatgtcgt | aggggaagcgt | gttggccaga | cccttgaggt | tggaccagac | accgggcatc | 34758 |
| aggcgcatgg | cgccgaccat | gaaggagggc | atgccctgtg | ccttgaccat | gaaggccttg | 34818 |
| accgcgtcgc | tgcgtcggtc | ctccgccaga | aggctgtcga | tctgaccgcc | gaagccggcg | 34878 |
| ggcggggccga | agccgtccga | ggtgacggag | aacggcggct | cgtagaccgc | gagcttgttc | 34938 |
| accttcaggc | cggcgggcgc | ggctcgcagg | gcgagcaccg | cgccggaaga | gctgccgaac | 34998 |
| agggaggccg | aaccgccgac | ctggtcgac | agcgccgcga | tgtcctcgat | ctcgcgctcg | 35058 |
| accgcgtacg | ccggaccgtc | ggcgctggcg | ccgcggcccc | gacggtcgta | gttgacgacc | 35118 |
| gtgaagtgct | cggcgaggag | accggcgagc | ttcttggcgt | cggagcggtc | ggccaaggcg | 35178 |
| gaggccacca | ggatcaccgc | cggccccctg | cccgacttgt | cgaaggcgat | cgtggtgccg | 35238 |
| tcggccgata | ccgtcgttga | ttccaccttg | gctgctttct | cacgggttga | agacatagct | 35298 |

E1
Cont

| | | | | | | |
|----------------------|-----------------------|----------------------|----------------------|-----------------------|-----------------------|------------------|
| tccctcagat | cacattgtgg | ggcgtgctgc | cgacagtgga | gaccggcgtc | cggaggaaaa | 35358 |
| gtaatcggtc | ctgccagaat | tgggggttcc | ggagggcacg | ccgaccgctg | cacgacggcg | 35418 |
| cgccccgacc | ttccggacat | tgtcgtgccc | tcagatgtgt | ttcgcatctt | caggagtgtc | 35478 |
| cagtgatccg | tgaggtgaga | aagggaacgg | ggtccgggtca | gtcgttgccg | cgcgggctgt | 35538 |
| tctggtaagc | ggccagacgc | cactgcccgt | cctgttcgac | ggccagccag | gaggccccga | 35598 |
| cggcgccgtc | gccgctcgcc | tcgggtctccc | ccggggcgag | gatgccgccc | tcgggtgatga | 35658 |
| gcagggcgat | gccgctcgcc | agcaggcgcg | cgtcgatggg | gctgccgatg | acacgggtgc | 35718 |
| ccttgtagcg | gcccgcgaag | gcggccgcca | tgtgggtgcg | gatgttctcg | cggcccttgc | 35778 |
| ggaagaggcc | ggggaggatc | atcgtcccgt | cctcggcgaa | gacgtcggcg | aaccggtcgg | 35838 |
| cgtcgtggtc | ggcccaggcg | gccacgatgc | gcgccggcag | agcggctacc | gctgccaggg | 35898 |
| cggcgtcggg | agcggagggtg | gtcgagtcgg | tgttggtcat | atcgcggttc | ccgtccgttg | 35958 |
| gttggcggtt | tcggcacggc | ccgcagccct | gcccagagccc | gacgctggca | ggcggccccg | 36018 |
| tcacagggca | tctcctgcgt | tgcgccccac | gccagtcact | tcacggccag | aacaagtcgc | 36078 |
| gcattctgga | agaagctgag | gcccgcgacc | cgggtgcgacg | atctgcggtg | tcacggagtt | 36138 |
| cgcacacgtt | tacgcacgga | ggctcgatgc | ccgtgtgcaa | tggatcgggtg | cagtcaggcc | 36198 |
| agtcgcaccg | acgctccgtc | gtggcgacgg | tgggtgggcaa | cttcgtggag | tcgttcgact | 36258 |
| ggctcgccct | cgggctcttc | gtcctctctt | tcgcgggtca | gttcttcccc | tcgtccaacc | 36318 |
| agttcacctc | cctgctcggc | gcgttcgcgg | tcttcggcac | gggcatgctc | ttccggccga | 36378 |
| tggcggggt | cctgctgggc | cgctcgcgc | accggcgcg | ccggcgcccc | gccctgatgc | 36438 |
| tggcgatcgg | actgatgacc | ggcggctcga | ccctgatcgc | cgtcgtcccc | acctacgagc | 36498 |
| acatcgggat | cctcgccccg | ctgcttctgc | tgctcgcccc | gctcgcccag | ggagtctcct | 36558 |
| cgggcgggga | atggacagcg | gcggccacct | acctgatgga | gatcgcgccg | aagaaccgcc | 36618 |
| ggtgcctcta | cagcagcctc | ttctccgtga | cgaccatggc | gggccccttc | gtcgcatcgc | 36678 |
| tgctggggcg | gggcctcggc | gtgtggctgg | gaaccgcgac | gatggaggcc | tggggctggc | 36738 |
| gggtgcccgt | cctcctcggc | ggcgtcttcg | gcgtgatect | gctgttctctg | cgccgtcggc | 36798 |
| tcaccgagac | cgaggtcttc | cgccgggagg | tgccggccccg | ggcccggcg | ggctcactgg | 36858 |
| gccagctgat | cggagcccac | cgccccagg | tgctgctggc | cgtgatgctg | gtggccggac | 36918 |
| tgggcgtcat | cggcggaacg | tggtcgaccg | cgggtcccggc | gatgggccac | cgtctgatcg | 36978 |

E!
Cont

| | |
|---|-------|
| gctcgcagac gatgttctgg gtggtggtct gtgtgaccgg ctcggtcatc ctgctgcagg | 37038 |
| tacccatagg gctgctcgcc gaccgggtgg aaccgggcag gttcctgac gtctccagcg | 37098 |
| tcgtcttcgc cgctgtgggc tcgtacgcct acctaccgt ccaggactcc ttcgcgagcc | 37158 |
| tggcgttcac gtacagcacc ggagtgatct tcctcggctg cgtcaccatg gtgctgccga | 37218 |
| agatgctctc cagaatcttc cctccgcaga tacgcggcct gggcatcggg ctgccgcacg | 37278 |
| cctcgaccac cgcactcctc ggcgggggcg ggccactgct ggccgcctac tccgacgagc | 37338 |
| gaggcgctc gggctggttc atcgccgcg tgatggccgc ggtcctgctc gcctggccgg | 37398 |
| ccaccctgtg ggagcgacgg ctgttccgcg cccggacggc cccgggaagc gagccggttc | 37458 |
| ccgaatccgc cgtcgcccg cccgtcgggt gaccgtccgc acttctgcat cccgtccggc | 37518 |
| accgagcgcc ggcgaccttc ccgactgaga ggttgacatc atgacgacgt ccgacaccac | 37578 |
| cgaccggtcc caggacggcg tgccgcgct ctccctccac caggagtcc tgtgcatggt | 37638 |
| cgacagcggg aacgacggcg ccgacgtggg gccgttcggc cccatgtacc acatcgtcgg | 37698 |
| agcctggcg ctgaccggcg ggatcgacga ggagaccctg cgcgaggcg tgggtgacgt | 37758 |
| cgtcgtgcgc caccaggccc tgcgcacatc gctggtccgc gaagggtggc cgcaccggcc | 37818 |
| ggagatcctg cctcgggggc ccgcgcgct ggaggtcgt gatctcggcg acgtcgacga | 37878 |
| gtcggagcgg gtgcggcgcg gtgaggaact gctcaacgag gtggagtcca ccggtctgag | 37938 |
| cgtgcgggag ctgcccctgc tgcggggcgt gctcggacgc ttcgaccaga aggacgcggt | 37998 |
| gctggctctc atcgcccacc acaccgccgc ggacgcctgg gccatgcacg tcatcgcccg | 38058 |
| cgacctgctc aacctgtacg ccgccaggcg cgggaaccgc gttccccgc tccccgagcc | 38118 |
| ggcccagcat gccgagttcg cccgctggga gcgcgaggcg gccgaggcac cgcgggtcgc | 38178 |
| ggtctcgaag gaattctggc gcaagcgct ccagggcgcg cggatcatcg ggctggagac | 38238 |
| ggacataccg cgctcggcg ggctgccaa gggcaccgcg tggcagcgct tcgccgtacg | 38298 |
| cggggaactg gccgacgcc tgggtggagt ctacgggcc gccagtgt ccccgttcat | 38358 |
| gaccatgttc gccgcctacc aggtgctgct gcaccgcagg acgggcgagc tggacatcac | 38418 |
| cgtgccgacc ttctccgggg ggcgcaacaa ctcgcggttc gaggacaccg tcggttcctt | 38478 |
| catcaacttc ctgccgtgc gtaccgacct ctccggatgc gcatccttcc gcgaggtcgt | 38538 |
| gctgcgcacc cgcaccacct gcggagagge gttcaccac gagctgccct tctcccggt | 38598 |
| gatcccgag gtgccggagc tgatggcgtc ggcggcctcc gacaaccacc agatctccgt | 38658 |

E!
Cont

| | | | | | | |
|-------------|------------|-------------|-------------|-------------|------------|-------|
| cttccaggcc | gtgcacgcgc | ccgcgtccga | ggggcccgag | caggccgggg | acctgacgta | 38718 |
| ctcgaagatc | tgggagcggc | agctgtcgca | ggcggagggc | tccgacatcc | ccgacggggt | 38778 |
| gctgtgggtc | atccacatcg | acccctcggg | ctccatggcc | ggcagcctcg | ggtacaacac | 38838 |
| caaccgcttc | aaggacgaga | cgatggcggc | cttcctggcc | gactacctcg | acgtgctcga | 38898 |
| gaacgcgggtg | gcccggccgg | acgccccctt | cacctcctga | gacagttccg | gcggcggcga | 38958 |
| acccgcccga | agaaaggaaa | gccagtgtcc | accgtttccg | acacagcggc | cggctcctcc | 39018 |
| ctggaggaga | aggtcaccgc | gatctggacg | ggtgttctcg | gcacgtccgg | tgaggaaggc | 39078 |
| gcgacgttca | tcgagctcgg | agggcagtcg | gtctcggccg | tgcgcacgcg | cacgcgtatc | 39138 |
| caggaggagc | tcgacatctg | ggtcgacatc | ggcgtcctct | tcgacgaccc | ggatctgcct | 39198 |
| accttcacgc | cggcgggtcg | ccggacggcc | gacgccgcgg | gcggcgaggg | ctccggaacg | 39258 |
| cagtgcagct | cgccggggcg | cgtctccccg | cggcgccccg | tttcacatgg | ctgaggcggt | 39318 |
| tcacccggtg | ccgggtgaac | cgcctcagcc | atgtgaaacc | gggcctggtc | agcgcagctg | 39378 |
| gatgtccgtc | tcccgggcga | tcgcccggag | gaactcgccg | cgggacagcg | cgtcggcgac | 39438 |
| cagctcgatg | tcgtcggcca | tgtaccggtc | gacgccccagc | gtcgggaacca | gccggcgcac | 39498 |
| cgttctgtac | gtggccttcg | ccgcggggct | caagccgtcg | aaccggccgg | agatgtcgac | 39558 |
| cgcttgggcg | gcggccaggt | actccaccgc | gaggatcttg | ttgttggttcg | acaggacccg | 39618 |
| gcggggcggtg | cgggcccaga | tcaggcccat | gtccaccacg | tcctgggttgt | cgccgttgga | 39678 |
| cgggacgctc | tgggtgctgg | ccggggccgat | cgctccggttc | tcggccacca | gtgcggtggc | 39738 |
| cgggtactgg | gcgcgggcga | atccgctgtg | cagccccggg | tccccggaga | cgaggaactc | 39798 |
| cgggaggccg | tagctgaggt | gccggttcag | gaccgggttg | atctgccgct | cggccaggac | 39858 |
| gccgagctgg | gtgagcgcga | tggtcacgaa | gtccatcgcg | aacgcgatcg | gctgaccgtg | 39918 |
| gaagttcgcc | ccgtggaaga | tctccttgcc | ctcgaagaag | agcgggttgt | cgttggccga | 39978 |
| gttgagctcg | atgcgcagct | tgtgccgcgc | gtggtacaag | gtgtcgcgca | ccgccccgac | 40038 |
| gacctggggg | atggcccgcg | gcgagtaggc | cttctgcagg | tagatctccg | agcgtgggac | 40098 |
| gtccttgccg | gcctccttgt | ccttctggag | ttctcggcgc | aggtcggcgt | gtctgaccgt | 40158 |
| cagtccgctg | ccccgcatca | gggcccgcac | gttgggcggc | gtgtcgatct | ggccctcgtg | 40218 |
| cgggcggggc | atgtcgtgcc | cctccgcgag | gaaggggctg | gtcgatccgc | gtaccgcctc | 40278 |
| gatgagcaga | gccgtcacga | tctcggcctg | ctgggcctgc | tccagggccc | gtccgacgac | 40338 |
| caggggagccc | agaccggtca | tcccggacgt | gccgttgatc | agtgcgaggc | cctccttgaa | 40398 |

E
Cm

gcgcagttcg agcggctcga tgcctcgctc ggccagcacc tgggcgggtct ccaccggccg 40458
 tccgtcgcgc aggacgtagc cctctccgat gagggtgctc gcgacgtggg agaggggagc 40518
 caggtcgccg ctcgccccga gtgacccgat ctcgggtatg gccgggggtga tgccctcggt 40578
 caggtactgc gcgaggcggt cgaggatgat ggggcgcacc gcggagtggc ccttggcgag 40638
 ggtgttcagc cgggcggcga cgatcgcccg cgcctcgtec tcggcgaaca gcggaccgac 40698
 tcccgcgctg tggctacgga cgagattggt ctgcagttcg acttccttcg acttgctgac 40758
 ctgcatgtag atcatctcgc cgtaccgggt ggtcaccocg tagatgggga tgttctgttc 40818
 ggcgatccct tcgaagatct cccggctctt ctgggccttc gcgatggatt cggccgggtac 40878
 gtcgaccgtc gcgcgttctt ccgcgacgcg gcgtacggct tcgacgggtca ggggtctcgcc 40938
 gtcgacggaa accgggacga tctcgggtct gacttgagtc aatgccatca ctccatgggt 40998
 agcggccgag gccgggtgtac gacaggtcag ggggtgggtt cgtgaggcgc ggctcagcgg 41058
 gtgagccggg agcgggtccac cttccccgcg gcgttgccgc gcaggcgtga agtcaggcgg 41118
 gtgaagacgg cgggcagtg caggggggccg aactggccgc gcagatggga acgccaggcc 41178
 cggatgtccg cgcgcacgtc ctcccgccc tctccttggt gcaccacgta cacggcgagg 41238
 cgggtcacca ggccctggcc gttgacgtgg gggaggaccg cgcactccag gaccgagggg 41298
 tcacggttca gcgcggcctc gatctcgggt agttccaagc ggttcccga cagcttgacc 41358
 tggaagtcct tgcggccccg gaattccagg gctccgtcga accgtaccg cgcagatcc 41418
 cgggtccggt accaccggtc accgtccggg gcgaggccgg cgaggggccc gaacagcgcg 41478
 ctgtgttccg ggccgcctc gacggcgaga taaccggcg tcacgtacgg ggagcggatc 41538
 accagttcgc cgggtgacgc ggccgggctc ggccgggtcgt ccgcgtccac gacgagtacc 41598
 tggcggcccg ggagcgggta cccgatcggg gccgggccc tgaccggccc ggtgatctcg 41658
 tgccaggtcg cggcgatcgt ctcggtgggc ccgtagaggt tgatcaggcg ggtccggggc 41718
 agggccgcgc gcagtccgtc cagagttcg ccgggcagcg cctcgcccat caggagcagg 41778
 tggcccaggg tgccgggccc atcgcccggg tcggaggcgg tgatcactcc caggaggtcc 41838
 cgggcgaagc tgggcacggt ctggagatga gtgatccgct cctggacgag ccacggcacc 41898
 agcttgctcg ggttcacct gacgcgtcc ggcaccggac acagcgtccc gccggccacg 41958
 agcgtcgcga agacctcggc cagcgccggg tcgtgctccg gg 42000

<210> 2

<211> 216
<212> PRT
<213> Artificial

<220>
<223> cDNA

<400> 2

Glu Asp Pro Gly Cys Gly Val Gly Val Thr Asp Glu Gly Gly Val Pro
1 5 10 15

Gly Asp Ala Cys Gly Glu Gly Arg Phe Leu Glu Phe Glu Ala Gly Gly
20 25 30

Glu Asp Asp Val Val Arg Val Glu Asp Leu Arg Val Gly Glu Arg Pro
35 40 45

Arg Ala Gln Pro Leu Gly Gln Val Arg Gly Glu Ala Pro Asp Gly His
50 55 60

Leu Glu Ala Ala Val Val Gly Pro Gly Val Glu Arg Leu Pro Val Arg
65 70 75 80

Phe His Lys Asp Asp Ala Gly Thr Gly Leu Pro Cys Gly Leu Asp Gln
85 90 95

Ser Gly Val Glu Val Val Leu Glu Asp Ala Ala Gly Gly Gly Ala Leu
100 105 110

E!
Cont Phe Gly Glu Leu Pro Arg Ser Pro Ala Pro Gly Pro Val Ala Pro Val
115 120 125

Gly Leu Leu Val Gly Pro Val Asp Glu Val Glu His Val Leu Ala Glu
130 135 140

His Arg His Pro Ala Gly Leu Asp Ile Glu Asp Val Val Pro Gly Val
145 150 155 160

Ala Val Thr Val Ile Gly Asp Ala Gly Arg Ala Val Gly Gly Ala Pro
165 170 175

Leu Gln Glu Asp Asp Phe Gln Arg Ser Ser Arg Glu Met Lys Gln Ala
180 185 190

Tyr Arg Gly Arg Arg Ala Cys Gln Ala Arg Pro Tyr Asp Gln His Pro
195 200 205

E
cont

Gly Ala Arg Thr Arg His Ala His
210 215
